What is claimed is:

1. A source for producing infrared (IR) light, said IR source comprising:

an insulating housing;

current carrying means capable of carrying electrical current;

at least a first and second resistance elements having a first and second resistivity, respectively;

a third resistance element having a third resistivity;

said current carrying means being electrically coupled to said first and second resistance elements to form at least a first electrical coupling between said current carrying means and said first resistance element and to form at least a second electrical coupling between said current carrying means and said second resistance element;

said insulating housing disposed to insulate said first and second electrical couplings from an environment;

said first resistance element electrically coupled to said third resistance element;

said second resistance element electrically coupled to said third resistance element;

said third resistance element disposed between said first and second resistance elements, said third resistivity of said third resistance element having a value greater than said first resistivity of said first resistance element and said second resistivity of said second resistance element.

2. A source for producing infrared (IR) light, said IR source comprising:

an insulating housing;

current carrying means capable of carrying electrical current;

at least a first and second resistance elements having a first and second resistivity, respectively;

a third resistance element having a third resistivity;

said current carrying means being electrically coupled to said first and second resistance elements to form at least a first electrical coupling between said current carrying means and said first resistance element and to form at least a second electrical coupling between said current carrying means and said second resistance element;

said insulating housing disposed to insulate said first and second electrical couplings from an environment;

said first resistance element electrically coupled to said third resistance element;

said second resistance element electrically coupled to said third resistance element;

said third resistance element overlapping an end of said first resistance element and an end of said second resistance element, said third resistivity of said third resistance element having a value equal to that of said first resistivity of said first resistance element and to that of said second resistivity of said second resistance element;

said first resistance element having a cross-sectional area transverse to a longitudinal axis of said first resistance element;

said second resistance element having a cross-sectional area transverse to a longitudinal axis of said second resistance element;

said third resistance element having a cross-sectional area transverse to a longitudinal axis of said third resistance element,

said cross-sectional area of said third resistance element being less than said cross-sectional area of said first resistance element and said cross-sectional area of said second resistance element.

3. The IR source according to claim **2** wherein:

said cross-sectional area of said first resistance element and of said second resistance element are comprised of a dimension of width and thickness;

said cross-sectional area of said third resistance element is comprised of a dimension of width and thickness; and wherein

the width of said third resistance element is less than the width of said first resistance element and of said second resistance element.

4. The IR source according to claim **2** wherein:

said cross-sectional area of said first resistance element and of said second resistance element are comprised of a dimension of width and thickness;

said cross-sectional area of said third resistance element is comprised of a dimension of width and thickness; and wherein

the thickness of said third resistance element is less than the thickness of said first resistance element and of said second resistance element.

5. The IR source according to claim **1**, wherein

said first, second and third resistance elements and said current carrying means thereby being electrically coupled; and wherein

said IR source further comprises a power supply electrically coupled to said current carrying means.

6. The IR source according to claim **2**, wherein

said first, second and third resistance elements and said current carrying means thereby being electrically coupled; and wherein

said IR source further comprises a power supply electrically coupled to said current carrying means.

7. The IR source according to claim **5**, wherein

said third resistance element is characterized by a thermal time constant for an operating temperature consistent with operating requirements of the spectrometer and

said power supply applies an AC square wave voltage across said third radiating element at a frequency greater than the inverse of said thermal time constant.

8. The IR source according to claim **6**, wherein

said third resistance element is characterized by a thermal time constant for an operating temperature consistent with operating requirements of the spectrometer and

said power supply applies a periodic voltage across said third radiating element at a frequency greater than the inverse of said thermal time constant.

9. The IR source according to claim **8**, wherein

said periodic voltage is a voltage of approximately constant amplitude and frequency across said third radiating element at a frequency greater than the inverse of said thermal time constant.

10. The IR source according to claim **9**, wherein

said periodic voltage is an AC square wave voltage across said third radiating element at a frequency greater than the inverse of said thermal time constant.

11. The IR source according to claim **5**, wherein said power supply is a class E amplifier electrically coupled to said current carrying means.

12. The IR source according to claim **11**, wherein said class E amplifier provides an approximately constant power output.

13. The IR source according to claim **6**, wherein said power supply is a class E amplifier electrically coupled to said current carrying means.

14. The IR source according to claim **13**, wherein said class E amplifier provides an approximately constant power output.

15. The IR source according to claim **1**, wherein at least one of said first, second and third resistance elements has a cross-section of at least one of a linear and a curvilinear shape.

16. The IR source according to claim **15**, wherein said cross-section is at least one of a rectangle, a circle, an ellipse and a polygon other than a rectangle.

17. A method of reducing drift of a hot spot in a radiating element of a source of infra-red (IR) illumination,

said radiating element being electrically coupled to a power supply,

said method comprising the steps of

(a) applying a constant polarity substantially constant direct current from said power supply to said radiating element for a period less than 24 hours;

(b) reversing polarity of the direct current to said radiating element for a subsequent application of direct current, the reversal of polarity occurring at a particular frequency f_{ps}.

18. The method according to claim **17**, wherein the frequency of reversal f_{ps}.is greater than once every 24 hours but less than once per duration of a scan by a Fourier Transform Infra- Red (FTIR) spectrometer using IR light produced by said radiating element.

19. The method according to claim **18**, wherein a sample being scanned by the FTIR spectrometer produces at least one signal at a particular frequency of modulation f_m and

the frequency is greater than the greatest frequency component resulting from said frequency of reversal f_{ps}.

20. The method according to claim **18**, wherein said resistance element is characterized by a thermal time constant for an operating temperature consistent with operating requirements of the spectrometer and the period is selected by the further step of:

(c1) applying a frequency of reversal of the polarity of the power source, f_{ps} which is greater than the inverse of thermal time constant τ_e of the radiating source element .

21. The method according to claim **20**, wherein the frequency of reversal of the power source is on the order of 10^4 times or greater than the inverse of the thermal time constant.

22. The method according to claim **18**, wherein said resistance element is characterized by a thermal time constant at an operating temperature consistent with the operating requirements of the spectrometer and the frequency is selected by the further step of:

(c1') applying a frequency of reversal of the polarity of the power source $\mathbf{f_{ps}}$ such that the thermal time constant τ_e of the radiating source produces a frequency in the illumination provided by the IR source that is outside the range of frequencies generating the FTIR scan.

23. The method according to claim **17**, wherein said radiating source element is characterized by a thermal time constant at an operating temperature consistent with operating requirements of the spectrometer and

said power supply applies a periodic voltage across said radiating source element at a frequency greater than the inverse of said thermal time constant.

24. The method according to claim **23**, wherein said periodic voltage is a voltage of constant amplitude and frequency across said radiating source element at a frequency greater than the inverse of said thermal time constant.

25. The method according to claim **24**, wherein said periodic voltage is an AC square wave voltage across said radiating source element at a frequency greater than the inverse of said thermal time constant.

26. The method according to claim **17**, wherein said power supply is a class E amplifier.

27. The method according to claim **26**, wherein said class E amplifier provides an approximately constant power output.